

## UNCLASSIFIED

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2 Exhibit)								DATE <b>February 1999</b>		
BUDGET ACTIVITY <b>7 - Operational System Development</b>				PE NUMBER AND TITLE <b>0203740A Maneuver Control System</b>				PROJECT <b>D484</b>		
COST (In Thousands)	FY1998 Actual	FY 1999 Estimate	FY 2000 Estimate	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY2004 Estimate	FY2005 Estimate	Cost to Complete	Total Cost
D484 Maneuver Control System	23712	28623	45125	25682	8572	3783	15924	12960	14400	517100

**A. Mission Description and Budget Item Justification:** This program element funds the evolutionary software development, integration and testing of the Maneuver Control System (MCS). Project D484, Maneuver Control System (MCS) satisfies an urgent need for efficient command and control (C2) of tactical operations on the battlefield. MCS is the Army's tactical C2 system used in command posts from corps to battalion to provide automated C2 for the commander and staff at and between echelons (i.e., Force Level Control). MCS is the heart of the Army Battle Command System (ABCS) and provides critical coordination among Battlefield Functional Areas (BFAs) within each echelon. The primary component of controlling Force Level Information transactions is MCS's management of common picture information. This includes information across all Battlefield Functional Areas (BFAs) consisting of the Situation Map (SITMAP) using Defense Mapping Agency map data to display friendly and enemy unit locations, control measures (e.g., boundaries, phase lines, etc.), Intelligence and Electronic Warfare graphics, Fire Support plans, combat service support location information, air corridors and air defense weapons control information.

MCS software is based on the Common Operating Environment (COE) standard architecture with applications to automate C2 operations. MCS Block III software uses the Terrain Evaluation Module (TEM) for terrain analysis, planning and SITMAP graphical displays. The MCS Block IV effort converted from TEM to the Joint Mapping Tool Kit (JMTK) which is the Common Operating Environment (COE) product. The Unit Task Organization (UTO) Tool provides the commander and staff a means of organizing (graphically and textually) tactical Army units by echelon. Unit commanders and their staffs can quickly and efficiently prepare and disseminate combat orders with MCS's automated Operations Order (OPORD) generating tool. MCS's report displays provide resource information roll-ups on all reporting battlefield units. In addition to serving as the common tactical picture database for all ATCCS BFAs, MCS is an essential gateway for Situational Awareness information received from Force XXI Battle Command Brigade and Below (FBCB2). MCS provides the Army "ground track" segment of the joint tactical common picture to the Global Command and Control System-Army (GCCS-A).

**FY 1998 Accomplishments:**

- 18587 Continued MCS software development
- 3303 Block III IOTE
- 1822 Battlefield Digitization

Total 23712

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<p><b>FY 1999 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 25973 Continue MCS Block IV software development</li> <li>• 150 Milestone III ASARC/DAB</li> <li>• 1776 Battlefield Digitization</li> <li>• 724 Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs</li> </ul> <p>Total 28623</p> <p><b>FY 2000 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 25053 Continue MCS Block IV software development</li> <li>• 20072 Battlefield Digitization</li> </ul> <p>Total 45125</p> <p><b>FY 2001 Planned Program:</b></p> <ul style="list-style-type: none"> <li>• 15827 Continue MCS Block IV software development</li> <li>• 9855 Battlefield Digitization</li> </ul> <p>Total 25682</p>																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; padding: 5px;"><b>B. Program Change Summary</b></th> <th style="text-align: center; padding: 5px;"><u>FY 1998</u></th> <th style="text-align: center; padding: 5px;"><u>FY 1999</u></th> <th style="text-align: center; padding: 5px;"><u>FY 2000</u></th> <th style="text-align: center; padding: 5px;"><u>FY 2001</u></th> </tr> </thead> <tbody> <tr> <td style="padding: 5px;">Previous President's Budget (FY 1999 PB)</td> <td style="text-align: center; padding: 5px;">24510</td> <td style="text-align: center; padding: 5px;">28923</td> <td style="text-align: center; padding: 5px;">17976</td> <td style="text-align: center; padding: 5px;">10366</td> </tr> <tr> <td style="padding: 5px;">Appropriated Value</td> <td style="text-align: center; padding: 5px;">25641</td> <td style="text-align: center; padding: 5px;">28923</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">Adjustments to Appropriated Value</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">a. Congressional General Reductions</td> <td style="text-align: center; padding: 5px;">-1131</td> <td style="text-align: center; padding: 5px;">-300</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">b. SBIR / STTR</td> <td style="text-align: center; padding: 5px;">-600</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">c. Omnibus or Other Above Threshold Reductions</td> <td style="text-align: center; padding: 5px;">-198</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">d. Below Threshold Reprogramming</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">e. Rescissions</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> </tr> <tr> <td style="padding: 5px;">Adjustments to Budget Years Since FY 1999 PB</td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;"></td> <td style="text-align: center; padding: 5px;">+27149</td> <td style="text-align: center; padding: 5px;">+15316</td> </tr> <tr> <td style="padding: 5px;">Current Budget Submit (FY 2000/2001 PB)</td> <td style="text-align: center; padding: 5px;">23712</td> <td style="text-align: center; padding: 5px;">28623</td> <td style="text-align: center; padding: 5px;">45125</td> <td style="text-align: center; padding: 5px;">25682</td> </tr> </tbody> </table>			<b>B. Program Change Summary</b>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	Previous President's Budget (FY 1999 PB)	24510	28923	17976	10366	Appropriated Value	25641	28923			Adjustments to Appropriated Value					a. Congressional General Reductions	-1131	-300			b. SBIR / STTR	-600				c. Omnibus or Other Above Threshold Reductions	-198				d. Below Threshold Reprogramming					e. Rescissions					Adjustments to Budget Years Since FY 1999 PB			+27149	+15316	Current Budget Submit (FY 2000/2001 PB)	23712	28623	45125	25682
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<b>C. Other Program Funding Summary</b>		<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>	<u>To Compl</u>	<u>Total Cost</u>
Other Procurement, Army											
Maneuver Control System - BA9320		0	12998	52049	50729	625	20609	42889	55928	323991	943400
MCS Spares - BS9710		0	0	0	4983	0	0	0	0	39918	91900

  

**D. Acquisition Strategy:** Since the initial MCS was introduced in Europe in 1981, this program has been and will continue to be, evolutionary software development, broken out into Blocks. The MCS capability continues to expand in pre-planned, time-phased steps toward the objective system. The final block of MCS software, Block IV, consists of development of two versions; MCS Version 1.1 and MCS Version 1.2. MCS Version 1.2, the objective software will add applications and stand-alone functionality from MCS Version 1.1. Therefore technical risk associated with each version is minimized. The use of Common Hardware/Software (CHS) equipment enables the MCS to capitalize on state of the art ruggedized, commercial equipment and reduce life cycle costs. Commencement of the transition to CHS began in FY 1989 with the initiation of the porting of software as well as the initiation of the integration of CHS into both the Standardized Integrated Command Post System (SICPS) and the existing Command and Control Vehicle.

  

<b>E. Schedule Profile</b>	<u>FY 1998</u>	<u>FY 1999</u>	<u>FY 2000</u>	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>FY 2004</u>	<u>FY 2005</u>
Division XXI Participation	1Q*							
Block III IOT&E	3Q*							
Milestone III Decision		3Q						
Initial Operational Capability			3Q					
MCS Version 1.1 OA/OT			4Q					
MCS Version 1.2 OA/OT					2Q			
P3I program						1-4Q	1-4Q	1-4Q

  

\*Milestone Complete

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<b>ARMY RDT&amp;E COST ANALYSIS (R-3)</b>										DATE <b>February 1999</b>		
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I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. Block IV (LMC)	C/CPIF/AF	Lockheed Martin Corp, Tinton Falls, NJ	24700	19150	1Q	25000	1Q	15000	1Q	3000	86850	See Remark
b. Block III (TKC)	C/CPIF/AF	CSC, Telos, MITRE	58969	0						0	58969	
c. Other Contracts	C/Various		193174	3134		5702		2783		14215	219008	
d. Technical Support	MIPR	CECOM	11343	994		1035		1076		4989	19437	
e. In-House			23919	1453		1540		1602		7260	35774	
f. PSE H/w &S/W	C/Various		9237	0		3000	1Q			4000	16237	
g. MITRE Sys Engrg		Eatontown, NJ		1400	1Q	1470	1Q	1545	1Q	7530	11945	
Subtotal Product Development:			321342	26131		37747		22006		40994	448310	

Remark: Contract is being restructured to meet FDD requirements (schedule and software functionality). Total Cost represents Project Manager's best estimate. Includes a total of \$9.0M budgeted for award fees from FY99 through FY01.

  

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. In-House			15699	630		655		681		3085	20750	
b. Other Contracts	C/Various		16456	642		693		750		3835	22376	
Subtotal Support Costs:			32155	1272		1348		1431		6920	43126	

  

III. Test and Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 1999 Cost	FY 1999 Award Date	FY 2000 Cost	FY 2000 Award Date	FY 2001 Cost	FY 2001 Award Date	Cost To Complete	Total Cost	Target Value of Contract
a. OGA	MIPR		1761								1761	
b. Other Contracts	C/Various		1452	220		230		245		725	2872	
c. CHS-1 HW	C/FPP	Miltope Corp	613								613	
d. Operational Test/Planning	MIPR	TEXCOM/OPTEC	4618	1000	1Q	5800	1Q	2000	1Q	7000	20418	
Subtotal Test and Evaluation:			8444	1220		6030		2245		7725	25664	

  

IV. Management Services: None												
Project D484												

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	Total PYs Cost	FY 1999 Cost		FY 2000 Cost		FY 2001 Cost		Cost To Complete	Total Cost	Target Value of Contract
Project Total Cost:	361941	28623		45125		25682		55639	517100	
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